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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,936	08/22/2003	Samuel D. Naffziger	200210023-1	3016

22879 7590 04/19/2005

HEWLETT PACKARD COMPANY  
P O BOX 272400, 3404 E. HARMONY ROAD  
INTELLECTUAL PROPERTY ADMINISTRATION  
FORT COLLINS, CO 80527-2400

EXAMINER

SHINGLETON, MICHAEL B

ART UNIT PAPER NUMBER

2817

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/646,936

Applicant(s)

NAFFZIGER ET AL.

Examiner

Michael B. Shingleton

Art Unit

2817

QW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 10, 16, 21, 23, 24, 26, 28-30 and 32-34 is/are rejected.
- 7) ☒ Claim(s) 3-9, 11-15, 17-20, 22, 25, 27, 31 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2-7-05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 2, 10, 28, 29 and 32-34 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 12, 13, 14, and 20 of copending Application No. 10/646,935. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the instant application and the '935 application are directed to the same basic concept except that the claims differ by a matter of wording. For example claims like claim 12 of the '935 application includes the newly added limitation of adjusting to an intermediate level during the transition between normal high and normal low levels that occurs during the "first operating mode" but states this subject matter in a different way, namely, the output waveform to include a temporary intermediate level that is between the normally high and low levels during a "second operating mode". Note that the original claims of the instant application were directed to a different invention from the claimed invention in the '935 application. Namely, during the first operating mode the instant application claimed that this waveform had to be at an intermediate level between the normal high and low levels and thus did not include the normal high and low levels. The waveform had to be between these levels as claimed. Now the claims of the instant application have been amended to include the normal high and low levels as part of this waveform. This is a big change in the invention. Another example is claim 28 of the instant application that recites the transition yet claim 20 of the '935 recites the same subject matter by using the word "include" instead of transition. Claim 29 of the instant application recites that a clock signal is formed and this would be one obvious use of the system as claimed by the '935 application and thus this does not present an patentable distinction over the claims of the instant application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented. Note the issue fee apparently has been paid in the '935 application but it does not have a patent number and it has not issued at the time of this Office action.

*Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 28-30, and 32-34 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Brown 5,507,456 (Brown).

Figures 1 and 2 and the relevant text of Brown discloses a system for providing a temporarily modified output. Note Figure 2a and column 3 around line 1 wherein "FIG. 2a-d illustrated stepped-square waves used for signaling according to the invention herein". Thus any of the stepped-square waves shown in Figures 2a-d either singly or in combination can be used for signaling. Accordingly, during a "second" mode the output is composed of at least in part the common stepped-square wave having two steps, one of low level and one of high level like shown in Figure 2a. Also, accordingly during a "first" mode the output is composed of at least in part the illustrated stepped square wave shown in Figure 2b. Note that the intermediate level for the stepped-square wave is for a certain amount of time and thus Brown inherently includes a delay network that provides for this intermediate level. Also note that Brown recites in the paragraph bridging columns 3 and 4 that the stepped-square waveform generator that produces the stepped square waves as illustrated in Figures 2a-d can control the "amplitude and duty cycle of the waveform" and thus information can be encoded thereon. It is noted that Brown only prefers making a composite waveform which is the sum of two stepped-square waves. But even in this preferred waveform the composite waveform contains the claimed waveforms when operated in the claimed modes. Applicant should note that the claims only require that during a first mode that a certain waveform be provided at the output and does not exclude other waveforms being provided at that output as well. The device of Brown in producing a square wave like that shown in Figures 2a-d is fully capable as operating

as a clock. A clock is in its simplest form merely a square wave generator of constant frequency. Thus, Brown's circuit qualifies as a clock.

Claims 16, 21, 23, and 24 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Mizokawa 4,170,715 (Mizokawa).

Figures 1-3 and the relevant text of Mizokawa disclose a system/clock generator and method for providing a temporarily modified output. This system of Mizokawa includes a waveform control that provides a control output at terminal "c" that temporarily adjusts to an intermediate level between normal high and low level during a first operating mode (Normal mode) when the NRZ data is a "1" and the SPM data is high (See Figure 3). When the NRZ data is a "1" and the SPM data is high this defines the "first operating mode". The second operating mode is defined by the case when the NRZ data is zero and the SPM data is "don't care" i.e. either high or low. During this operating mode as is clearly illustrated by Figure 3 of Mizokawa the waveform control provides the control output to transition periodically between the high and low levels. Note that the high level is greater than the intermediate level which is in between the high and low levels of the second operating mode. Clearly, the circuitry shown in Figures 1 and 2 inherently includes a delay network that sets forth i.e. controls the time of the intermediate level. The examiner must give the broadest reasonable interpretation to the claims consistent with the specification (See MPEP 904.01). The device of Mizokawa in producing a square wave like that shown in Figure 3 is fully capable as operating as a clock. A clock is in its simplest form merely a square wave generator of constant frequency. Thus, Mizokawa's circuit qualifies as a clock. Also note that elements 9 and 10 being an amplifier assembly clearly qualifies as a driver. Note that the control output "c" is composed of a first control output and a second control output and the input to the driver "d" is composed of "at least first and second inputs" wherein "the control output provided by the waveform control further comprising a first control output that is provided to the first input of the driver and a second control output that is provided to the second input of the driver". The waveform control clearly "self-biases" to the intermediate level for it is the structure that provides the intermediate level. Again the examiner must give the broadest reasonable interpretation to the claims consistent with the specification (See MPEP 904.01). Note that the unshown but clearly present signal generators, the sources of signals a and b, are a "predriver" that is coupled to control the system mentioned above. Note that the element 24 forms a divider that controls the amplitude i.e. the intermediate level during the second operating mode (See column 3, around line 30).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mizokawa 4,170,715 (Mizokawa).

Mizokawa as applied above and the following: Mizokawa is silent on there being an associated circuit connected to the output of element 10, i.e. driver. The amplifier 10 is for reproducing the signal (See column 2, around line 62). The system of Mizokawa is a repeating system that enables the control output to travel long distances. Thus Mizokawa is a component of a larger system. It is conventionally known to have a repeater system drive an ultimate load such as a receiver, i.e. an associated circuit.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the system of Mizokawa with an associated circuit because, as the reference is silent on the where exactly the output of element 10 is connected one of ordinary skill in the art would have been motivated to use the component of Mizokawa in any art-recognized system that receives square waves such as the conventional receiver systems.

*Allowable Subject Matter*

Claims 3-9 and 11-15, 17, 18-20, 22, 25, 27 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant's arguments filed 2-07-2005 have been fully considered but they are not persuasive.

Applicant recites that "Brown...is properly considered in its entirety" which the examiner has done. Likewise the claimed invention is properly considered in its entirety. Claim 1 for example is very broad claim that in a nutshell has been amended to claim that now claims a stepped waveform (first operating mode) and a standard square-wave (second operating mode). Previously, the output had to be between the normal high and low levels during this first operating mode. The presently claimed invention now recites that the first operating mode includes the normal high and low levels. Brown also discloses

this invention (See Figures 2a and 2b for example.). Applicant recites the term “temporarily modified output” and the stepped waveform of Brown is temporary in that it does not have to occur all the time. In fact Figure 2a is a standard square wave or stepped square wave where the step is of zero duration that is used for the signaling (See column 3, around line 1). The maximum and minimum amplitudes of these signals of Figures 2a and 2b can be adjusted and they do not have to be different as alleged by applicant. Applicant also believes that the examiner has engaged in “an improper application of the doctrine of inherency”. The examiner respectfully disagrees. Due to the lack of a specific definition of the term “delay network”, the examiner has only given the broadest reasonable interpretation to the claimed invention. (See MPEP 2111). As there is a delay that occurs in Brown for the time of the intermediate level and this is a controlled delay and the means by which this delay is controlled is a “network” i.e. circuit, Brown clearly meets the broad definition for the claimed term “delay network”. No specific structure for the claimed “delay network” is recited in claim 1 for example and thus any network that provides for the delay meets the claim(s). Claims like claim 1 is just a broad claim.

Applicant recites: "Independent claim 16 recites a driver and a waveform controller. The waveform controller provides a control signal based on which the driver provides an output clock signal. As stated above with respect to claim 2, Mizokawa fails to teach (or even suggest) a driver that temporarily provides an output signal at an intermediate level between normally high and low levels during a second operating mode, as recited in claim 16. Instead, the circuit 10, which the Office Action identifies as the driver, provides its output at a constant amplitude level. See column 2, lines 63-64 of Mizokawa. Accordingly, Mizokawa does not anticipate claim 16." Column 2, around line 64 of Mizokawa states that “[t]he circuit 10 detects the received data d at a constant amplitude level” which is true when final output is obtained, but applicant should also note that just above this passage that the transmission output “c” is sent through the transmission path and this is what makes up “d”. Output “c” is the signal that varies and has a “second operating mode” that provides the output signal between the normally high and low levels i.e. intermediate amplitude level(s). When “c” has constant amplitude levels “d” will have constant amplitude levels. Thus contrary to applicant’s beliefs the transformer 9 and the amplifier 10 does not transform this output “c” to a signal “d” at a constant “amplitude” level for all values of NRZ and SPM data as this would be destroying the Mizokawa reference in that the NRZ and SPM data would not matter for there would be no intermediate levels. Also note that Mizokawa has no means by which to transform output “c” to a constant amplitude level signal “d” for all values of NRZ and SPM data for element 8 is a mere transmission path. Note that claim 16 is directed to a different

Art Unit: 2817

invention from newly amended claim 1 in that claim 16 requires the output level to be between the normal high and low levels whereas claim 1 as newly amended includes the normal high and low levels.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael B. Shingleton whose telephone number is (571)272-1770.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal, can be reached on (571)272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MBS  
December 24, 2004



Michael B. Shingleton  
Primary Examiner  
Group art unit 2817



Application/Control Number: 10/646,936  
Art Unit: 2817

Page 8